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Can You Trust Your Environmental Auditing Program. Organizational Issues in Establishing and Improving Environmental Auditing Programs

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This report discusses organizational issues affecting environmental auditing and whether managers can have faith in the capability and integrity of their auditing programs. It suggests factors managers may take into account when establishing or upgrading audit programs. Because so many variables exist within a firm regarding audit systems, managers should take a position allowing them to evaluate evolving programs and make corrections when appropriate.

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CAN YOU TRUST YOUR ENVIRONMENTAL AUDITING PROGRAM?

ORGANIZATIONAL ISSUES IN ESTABLISHING AND IMPROVING ENVIRONMENTAL AUDITING PROGRAMS

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1.0 INTRODUCTION

Many companies have established or are considering establishing Environmental Auditing (EA) programs. These programs can result in favorable publicity, better compliance, corporate protection from liability suits, improved management of risk, reduced regulatory fines, improved worker health and job satisfaction, and decreased on-the-job injuries.[1] While much has been written about the evolution, role, and benefits of auditing programs, a neglected topic has been the organizational issues. Can corporate managers have faith in the capability and integrity of their auditing programs?[2]

2.0 ORGANIZATIONAL CAPABILITY

Whether or not EA programs are capable of achieving their objectives depends on some of these factors: the program's objectives, its tasks and performance indicators, and the availability of human and material resources.

Objectives--The substantive direction of the EA program may involve either or both: (1) the assessment of environmental hazards and risks, control measures, and the effectiveness of mitigation systems; and (2) the examination of a company's adherence to environmental policies, procedures, and practices.

Tasks and Performance Indicators---The tasks performed by an auditing program need to support its goals. Management and EA personnel require indicators for assessing program progress.

Staff Qualifications--EA staff require appropriate training and experience. Procedures for verifying staff competency as well as providing training opportunities are necessary. The length of service of staff and their time commitment (whether full-time, part-time, or on-call) are important.

Budget--A significant manifestation of a program's resources is its budget. While size of budget is easily quantifiable, adequacy of budget is another matter. Few program managers believe their budgets are adequate. As with staff size, adequacy of budget depends on role, mission, organizational place, and other functional factors, as well as on such things as the degree of automation.

3.0 ORGANIZATIONAL INTEGRITY

Integrity refers to whether the EA program has the organizational power and independence to achieve its goals. Indicators of integrity are structure and placement within the organization, management level of supervision, internal authority and autonomy, staff recruitment and exit processes, and external professional relations.

Organizational Structure and Placement--Organizational charts show reporting relations which are an indication of how much power and independence the EA program has. They may also show whether the EA program has become a permanent part of the organization or whether it is temporary and ad hoc. While there is no "best" method, a permanent program is likely to provide a firmer basis for auditing because of increased staff experience and organizational memory.

High-Level Reporting--The level of EA reporting in the organization is formal evidence of "clout." While the EA program need not report directly to the highest level in the organization, it should report to a sufficiently high level to be taken seriously. Reporting level indicates the organizational rank of the EA progam director and also the number of layers between the director and senior corporate decision makers. Ultimately, the official to whom the program director reports needs to have the authority to bring about changes recommended by auditors, especially if the plant managers do not or cannot do so.

Internal authority--Auditors need to have the internal authority to carry out audits, recommend changes, and gain access to records and personnel. To acquire such authority, they may have to rely on the support of senior officials. So that the recommended changes of the EA program are actually carried out, the program may need a formal system of logging recommendations and keeping track of the organization's compliance.

Autonomy--If the budget depends on the audited sections of the organization, the EA program's independence is likely to be threatened.[3] Independence, however necessary, must be tempered with attributes that prevent against isolation. Distance from line operations and practical decision-making can render the EA program irrelevant. Methods of preventing such isolation are: (1) close contact with shop-floor operators including frequent interaction and observation; (2) use of immediate exit interviews with facility managers on completion of an audit; and (3) reliance on part-time management and technical committees made up of individuals who have production responsibilities.

Recruitment and Exit Processes--The career path for EA personnel is important. If the audit staff is part of a fast-track advancement process, then it is likely to attract better qualified personnel. On the other hand, if auditing is a temporary assignment, auditors may be overly concerned about the impact of their auditing activities on future assignments. If auditing is perceived as a career detour or dead-end assignment, it will be difficult to recuit or retain competent personnel.

External Relations--To increase independence, auditors should be encouraged to communicate with their professional peers. Currently, environmental auditing is less developed and institutionalized than financial auditing. Internal financial auditors have their own professional association, the Institute of Internal Auditors. A similar institution of internal environmental auditors could provide a reference group that would bolster independent judgment, improve the state of the

art, upgrade professional qualifications and standards for competent audits, and further generally the credibility of audit programs. Increased peer communication between auditors can built these benefits, whether or not such a professional organization emerges.

4.0 ORGANIZATIONAL PLANNING

Organizational planning can be a useful tool in creating EA programs that have capability and integrity. A plan may cover (a) the formal system of controlling and organizing the work; (b) relationships within the program and between it and other organizational components; (c) staffing; and (d) external relations.

In addition, the following information would be useful:

- organization charts showing how the audit program is structured and fits into the overall organization;
- listings of the purposes, tasks, and responsibilities of EA units including any departments, committees, groups, project teams, and part-time and/or ad-hoc task forces;
- names of full-time, part-time, and on-call officials who are involved; their qualifications and experience; and their responsibilities (for audjting and/or production);
- provisions, if any, for routing and sign-off on items of significance;
- rotational policies, career paths, and provisions for the training and retraining of audit officials;
- performance indicators and other provisions for the analysis of both environmental performance and environmental audit performance; and
- other relevent policies, procedures, and practices that may affect the authority or independence of auditing components, the relationships among them, or the relationships between them and the production organization.

5.0 STRATEGIC AND STRUCTURAL ISSUES

Even with the best plans, auditing may be difficult to integrate with other organizational purposes. Auditing programs may not fit into a firm's structure and may lack clout and influence. The following types of strategic and structural issues may affect auditing.

Competing Corporate Purposes

Corporate executives have to balance environmental compliance with other corporate goals, the main one being profit. Even if not strict

profit maximizers, business leaders are likely to set "targets" of overall financial well-being.[4] As a consequence, a common problem is that plant supervisors tend to disengage their responsibility for environmental quality from their production and supervisory duties. One method of correcting this problem is to require supervisors to file regular reports with auditors, as these reports compel consideration of auditor concerns on a scheduled basis. However, good indicators of performance are not easily found. They need to be reliable, available, valid, objective, and conceptually distinct; and they must be adjusted statistically for company and plant differences, i.e., plant size, age, and operating status.

Auditor/Organization Relations

How the organization responds to the concerns of auditors may be strongly related to the auditors' attitudes and capabilities.[5] The auditing staff invests a large amount of time with regulatory officials and others outside the organization. They carry outside pressures into the organization and often raise questions or anticipate problems that other staff may prefer to ignore. Even product quality assurance units, which are directly related to production, are sometimes at odds with the organization's production units. The potential for goal conflict between EA personnel and other personnel in the organization is obviously greater.

Constructive corporate attitudes toward the EA program can be manifested in formal and informal ways. On a formal level, official company pronouncements to staff about the EA unit need to stress the importance of the program. Exhortations about the value of the program may not solve all problems, but the absence of formal pronouncements sends a negative message of its own. A company, if possible, should try to get beyond formal platitudes. Efforts should be made to create a favorable impression of the environmental audit program. In this regard, it may be useful to conduct evaluations of company attitudes about the performance of audit teams.

Additionally, capable personnel must be chosen to participate in the auditing program. The power of auditing officials ultimately rests on their persuasive abilities. They must be able to develop and present cogent arguments that often require immediate action by plant managers and top management officials. Top management commitment is a critical factor, as well as line, staff, and worker involvement in implementation. To improve the auditor/organization interface, a stable and committed workforce, training, informalcommunications, and participation by individuals from diverse levels in the organization are needed.

6.0 MODELS FOR AUDITING ORGANIZATIONS

Production organizations are characterized by hierarchy, centralized decision making, and control through planning.[6] However, auditing, which can be equated with the quality of production, requires different goals, performance measures, and organizational structures.[7] In the mechanistic model, the top gives the orders, and the effectiveness of the

organization is assessed by the degree of compliance.[8] However, the application of this model to auditing would tend to reduce search procedures and the ability to detect and correct error, which are primary auditing functions.

Different organizational arrangements may be used for auditing. Roberts and Bluhm found the following environmental management arrangements among the electric utility companies they examined:[9]

- o permanent integrating or planning units;
- o semi-permanent project teams;
- o temporary committees or task forces;
- o formal or informal top management groups; and
- o permanent intergroup teams.

Three organizational forms for auditing may be distinguished: (1) the separate full-time department, (2) the permanent top echelon committee, and (3) the ad hoc, temporary task force or team.

Studies have shown that separate, full-time regulatory response units are becoming increasingly common. Holmes found in a survey of Fortune 500 firms that there was a movement toward greater formalization, away from the task forces and semi-permanent project teams and toward the permanent, full-time units.[10] Roberts and Bluhm conclude that no organizational form is the best, but that strong managers tend to be those who encourage "a certain amount of questioning and dissent" through organizational diversity.[11]

Organizational Diversity

A corporation often obtains information about environmental issues from a diverse set of key individuals and groups with an interest in a particular issue. The information received, however, often depends on organizational position. Corporate executive officers, legal staff, public relations specialists, lobbyists, technical people, and operating managers or engineers all may have sharply different viewpoints depending on their professional training and personal inclinations. Each is likely to interact with different external groups in forums that differ in their formality, specificity, and emotional intensity.

Nonetheless, in some situations the flow of information to top officials may be very one-sided.[12] Lower level officials may (1) report only those facts that support their position; (2) structure the presentation of facts; and/or (3) distort the facts. Production oriented managers may not encourage innovative ideas which threaten their control. Janis explains a "groupthink" phenomenon in which there is an "illusion of invulnerability, unanimity, a suppression of doubts, the functioning of self appointed mindguards, and a docility fostered by suave

leadership."[13] A top manager can circumvent conscious or unconscious efforts at selective misinformation by (1) seeking alternative sources of information; (2) creating new channels of reliable information; and (3) surrounding himself with divergent views.

As an alternate source of information, auditing can improve the quality of decision-making. Integrated programs may consist of independent full-time units, part-time audit committees, and project teams of on-call officials. Multiple auditing components increase the variety of viewpoints and correct for bias and selective misinformation. Advantages of the independent, full-time units include: more in-depth analysis; less consideration of "bottom-line" questions of production and efficiency; and sole focus on environmental quality considerations. Disadvantages include: lack of power and organizational isolation; difficulty maintaining staff quality and attracting an appropriate mix of technical disciplines; and potential opposition from the production line and technical/engineering units. Advantages of part-time committees composed of management, technical, and operational officials include: direct linkage between environmental issues and production realities; significant authority for implementation; broad viewpoint across operating units; and forum for discussion based on wide-ranging expertise. Disadvantages include: competing responsibilities; insufficient time for tasks and analysis; and primary goal of maintaining near-term production. On-call officials and project teams can serve as important information sources and implementation linkages and may be fruitfully used in conjunction with either the full-time units and committees.

The "Best" Design

Obviously, the "best" organizational design for a particular company's auditing program will depend on a variety of key factors specific to the company including: 1) the number, type, and location of the plants operated by the company; 2) the overall organizational structure of the company; 3) the previous environmental record of the company (e.g., more resources may be needed if there has been a history of environmental problems); and 4) corporate culture. Nonetheless, organizational diversity which may involve the use of part-time and on-call officials in conjunction with full-time auditing units or groups is likely to be a positive design feature. According to La Porte, error-free organizational designs rely on diversity to compensate for problems and correct errors.[15] In theory, systems are as reliable as they are diverse; that is, diversity is meant to decrease the probability of error and risk.

The existence of complementary organizational forms is like the dual braking system in a car and like other redundant features of technological systems which are designed to reduce risk.[16] Metlay has found that diverse sources of information exist in almost all organizations.[17] However, often the organizational response is to ignore the information provided, although sometimes policies may be altered. Administratively, diverse units can increase the need for coordination.[18] Greater diversity may mean a greater likelihood that some individuals will discover mistakes and propose corrective action, but a decreased

likelihood that changes will be made. Thus, the value of additional units ultimately depends on their being linked to operational units that use their outputs. As Metlay emphasizes, the autonomy of diverse components has to be balanced with some degree of interdependence.[19] Independence facilitates the detection of errors and may bring to light alternative means for rectifying errors; interdependence is needed for the organization to accept the identification of error as well as to take ameliorative action.

7.0 METHODOLOGICAL ISSUES IN ASSESSING ENVIRONMENTAL AUDITING PROGRAMS

A useful technique for obtaining information about the functioning of EA units is in-depth, open-ended interviews with audit officials and production unit staff. Qualitative evaluations may generate the information needed for improving audit programs. However, analysis of open-ended interview material is difficult because responses are not necessarily systematic or standardized.[20] In-depth interviewing as a method of assessing EA units assumes that:

a. Interviewees can and will express their subjective impressions to interviewers. However, if the interviewers are working for a management audit improvement committee and the interviewees are officials of the audited unit, then the information provided may be biased or distorted.

b. Interviewers can understand and interpret subjective impressions. However, if the interviewers are of one discipline with one perspective and the interviewees are of another discipline with a different perspective, comprehension may be difficult.

c. Interviewers can make comparisons and draw policy implications from their interpretations. However, if the interpretations are faulty because of lack of frankness on the part of the interviewees and inability to understand on the part of the interviewers, then the inferences drawn from such interviews may be false.

Subjectivity

Organizational assessments based on interview information are largely subjective; that is, they cannot be completely verified by scientific methods. Qualitative analysis of interview information has these subjective features:

- an emphasis on an inner perspective (what people know and have experienced);
- problems of temporal sampling (decisions about the time-period or periods of observation);

- o distortions introduced by the sequence, wording, and clarity of questions, and by the probes, follow-ups, and note-taking conducted during the interviews; and

- o analysis and interpretation of the interview information (the ability to separate the serious from the irrelevant).

Validation Techniques

Various methods of validation may be used to minimize subjectivity. One method is to use standardized questionnaires rather than relying on informal interviews. However, with standardized procedures, the assessment is apt to miss important and relevant information such as the subjects' perceptions. Another method of validation is moving from open-ended questions to formulation of hypotheses. As the inquiry reveals patterns and major categories of interest, it may evolve to a more deductive approach that focuses on verifying and elucidating what the evaluators believe the initial information shows. Understanding based on open-ended interviewing often involves moving between inductive "encounters" to form "hypotheses" to deductive attempts to obtain evidence and "solidify" ideas.[21] The danger is that initial interpretations may bias additional analysis. Beyond focusing on confirmation, inquiry must also be sensitive to different definitions of the problem, contradictory explanations, and alternative insights that might invalidate or change initial impressions.

Triangulation

"Triangulation" is the classic method of validating interview-based evaluation information. It is the attempt to substantiate observations by the use of diverse sources, analysts and perspectives, and methods. Denzin has identified the following types of "triangulation": (1) the use of a variety of data sources; (2) the use of several different researchers or evaluators; and (3) the use of multiple methods of analysis.[22]

Variety of data sources--Managers concerned with improving their EA programs need to collect documents such as the EA program's organizational plan and examine records, statistical information, and program reports as well as supplementing interview data with direct observation. Observation can be very important. For example, the fact that an environmental auditing group is located in a trailer in the company's parking lot and that members of the group must obtain visitor's passes before passing through plant gates can indicate that the group has little influence.

Multiple sources of information have to be brought together to construct a comprehensive picture. This means that evaluators should endeavor to compare and contrast different program information derived at different times by different means. For example, in studying audit groups, evaluators may need to understand not only the audit program under investigation but the entire organization of the company. The boundaries of the audit system may be hard to define. They may include not only the audit group and the plant and production system, but also additional

elements, such as the corporate organization and its quality assurance departments, plus suppliers, trade associations, regulatory agencies, and other external organizations.

Interviews may need to be carried out with some members of these external organizations. At a minimum, leaders of the audit groups and members have to be interviewed; to insure comprehensive coverage, separate interview guides for other officials may be needed. Additionally, to ensure accuracy and reliability, the same question should be asked many times. However, deciding how many people need to interviewed and how many times questions are asked requires judgment. Budgetary and time constraints often play a major role in making these determinations.

Different evaluators--Another method of verification, if the EA unit and the evaluation group are both large, is to use different evaluators with different disciplinary backgrounds and perspectives. More than one person should do interviews, analyze information, and write assessment reports. A single evaluator may not be able to maintain objectivity and neutrality through the evaluation process. Therefore, teams of analysts with different theoretical perspectives and attitudes may be needed. Some may discover positive program findings, others negative findings, and a more balanced picture may emerge.

Multiple methods of analysis--A final method of "triangulation" is to use multiple methods of analysis. For example, it is possible to do both qualitative and quantitative analysis or to convert detailed qualitative descriptions into quantitative scales for the purposes of statistical analysis. Qualitative and quantitative data may be gathered separately and compared. With qualitative methods, issues may be studied in depth and detail. Data collection and analysis are not constrained by pre-determined categories. The advantage of using quantitative methods is to measure the response of many subjects to a few pre-selected questions. Using both methods can increase the validity of results.

Getting Reactions from Subjects

Managers can learn a great deal about the accurateness, fairness, and validity of their findings by allowing the subjects of the study to comment.[23] The fact that participants in the study are "unable to relate" to the description and analysis indicates that a report lacks credibility.[24] However, when a management review committee is doing the evaluation of the auditing unit and the subjects are members of the audit unit, it is unlikely that they will be able "to relate" neutrally to the report, no matter how accurate or valid it may be.

Different methods of verification produce different results, and decision makers need to be sensitive to the mode or modes they choose. Assessment of EA units does not provide definitive answers to evaluation questions. It does provide "credible, plausible, and probable" perspectives.[25] Nevertheless, such assessment is neither completely rhetorical nor entirely arbitrary. As House points out, "Persuasion is

directly related to action . . . Once the burden of certainty is lifted, the possiblities for informed action are increased."[26]

A Heuristic Action Approach

In making recommendations for EA establishment and improvement, a perspective that allows decison-makers to watch recommendations evolve and mature over time may be appropriate. The process of evaluating thus becomes subject to "scientific discipline" or "rationality" under a "heuristic action research protocol," the key elements of which are:

(a) an emphasis on decision latitude -- avoiding fixed or irrevocable assessments to allow for subject initiative in defining and solving problems;

(b) a shift from final assessments to in-process evaluations;

(c) systematic attempts to keep an open mind and allow for corrections instead of relying on a priori assumptions; and

(d) developing practical bases for transforming initially qualitative assessments into empirically validated ones. [27]

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